ENTERED

OIPE

Input Set : A:\SeqList for UCSF-129CIP.txt
Output Set: N:\CRF3\04052001\I817360.raw

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         4 <110> APPLICANT: German, Michael S.
         5        Lin, Joseph
         7 <120> TITLE OF INVENTION: PRODUCTION OF PANCREATIC ISLET CELLS
         8        AND DELIVERY OF INSULIN
        13 <130> FILE REFERENCE: UCSF-129CIP
C-->   15 <140> CURRENT APPLICATION NUMBER: US/09/817,360
C-->   15 <141> CURRENT FILING DATE: 2001-03-20
        15 <150> PRIOR APPLICATION NUMBER: 09/535,145
        16 <151> PRIOR FILING DATE: 2000-03-24
        18 <150> PRIOR APPLICATION NUMBER: 60/128,180
        19 <151> PRIOR FILING DATE: 1999-04-06
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        23 <170> SOFTWARE: FastSEQ for Windows Version 4.0
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        33 tctaacttgc agttaaataa atcaggcaag gctggcctat gaggcagaca agtgtgaaga     180
        34 aggagaagga ggaggagaag gagaaggaga aagaagaaga aggaggagaa gaagaagaag     240
        35 aagaagaaga agaagaggag gaggaggagg aggaggagga agcagcagca gcagcagcag     300
        36 cttgaatgga cagtggttcc ccttgcctag aaaatgggac cattatttct tttctaatct     360
        37 gaccccagga ctcaggactt cctctatttt ctgcattttg gggtctcttg ttttgccttg     420
        38 aaaaaaaatg ttttctccca aatcaaggag cagtagctgg tgcaagggaa aatctagggc     480
        39 taggagtctt aagatatgac ttctatgtgg ttctgataga acttgctggg tgaccttgag     540
        40 agagtcactc cccctctctg ggccttgatt ttttcatctt taaagaaggc ctcaaattcc     600
        41 cattcttatg agaagaagac aagctcctag tgagtggtga cctaagggag cagctgcagc     660
        42 aaaatgctaa cctgacagtc ccagatggtc cctttattgg ttctgaccct ggtctcaggc     720
        43 ttcatttccc cacagcaagg gaaggagcct gctcacagag caccagctaa gatcagcagg     780
        44 accgcgccac acccccgccc agtcctagag ccccccctctc gctggttcct gagcatacca     840
        45 ccctcttcct tggaggaaaa tttgcccccca agcagcctag gcggtaagag gctatcacta     900
        46 gggcagactc acagacctac ctcatcccct caccccaccc tacagtctcg aagtcgggtc     960
        47 ctgtcccctc ctgcagtttc cgggagactc aggatatctg gacctgctag aaagagaagc    1020
        48 cttcctcgcc taaggagact taaaccggga tacttaaacc tcccgcctcg gcgtcttcct    1080
        49 ccaggcacga ccgggtcaag agagagaagc ggaagctgca accctcact ctgagtgacc    1140
        50 ggaagcagaa gaccacggga tgtcccaggc ggggacaaga ggaggggctg gggaagaaag    1200
        51 gagggatgat gagttcagag tccctttgga aaggtttcca gagagcgcta ccagggacaa    1260
        52 cccaaggggc tggggaagtc cctgccttgt gctctctgtg cgatgcccga gtgatgcaga    1320
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        54 gactaagggg agaaaaagtt tatcagcttc tcccagtgcc tgcacgctgt ggtagttcaa    1440
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        56 aaaggaacgc ttgagcccag gagttcgaga ccatcctggg caacaaagca agaccgcccc    1560
        57 tcaccccata caaaataaaa atacaaataa attagccggg cacagtggcg catgcctgta    1620
        58 gtctcagcta ctgggaaggc tgaagtggga ggatagcttg agcccaggag atcaaggctg    1680
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RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/817,360

DATE: 04/05/2001
TIME: 12:14:04

Input Set : A:\SeqList for UCSF-129CIP.txt
Output Set: N:\CRF3\04052001\I817360.raw

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 61 cttcctcccc tcctcacact tcccagaact cttcctgtca cggttcctgg ccagaacgct   1860
 62 gggatactat ctacaagctg tagtaggctt gtagtaatgg aatgtccgct tgaggggtcc   1920
 63 ccgcacagcc aaccccggcc tctggagtgg gatctatggg ggtgggggttc taagcgcctc   1980
 64 tggggagtgt gaggtagcat ctcaggtgt ggcagaggct cggacacccc caaaaggtct   2040
 65 gtgaatggaa gggacatagg caggatctct ctcagtgatg tccctgtct tccaggatga   2100
 66 agagaggcag tgaaacacca ggagagcagg gcgtcctta gaattcctgg acccttctcc   2160
 67 aggctgctag tcaggacaat gagctcgtgg ttgtctttgc cactatcttc ctgtgcgatt   2220
 68 tcagacaagc cacctccctc actaagccta aatttcccca tgtgtaacgt gcaggcattg   2280
 69 taccctagag gcatcaaagt cccctccagg acagatgcta aggaaagata ggctaggagc   2340
 70 aaagccgtct gaggtggcct gaccagagcc acacgaggct cttctcactg ggcgaggctc   2400
 71 tttgaggaac cgagagttgc tgggacccag cccgccctcg agagagcaaa cagagcggcg   2460
 72 ctcccctccc ccgaccccgg cccttttgtcc ggaatccagc tgtgctgcgg gggaggagcg   2520
 73 ggctcgcgtg gcgcggcccc agggccccgg cgctgattgg ccggtggcgc gggcagcagc   2580
 74 cgggcaggca cgctcctggc ccgggcgaag cagataaagc gtgccaaggg gcacacgact   2640
 75 tgctgctcag gaaatccctg cggtctcacc gccgcgcctc gagagagagc gtgacagagg   2700
 76 cctcggaccc cattctctct tcttttctcc tttggggctg gggcaactcc caggcggggg   2760
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103 cgaactgcgc ctgaaacgtg agctgcgctg caggtgcctg gagcaccgcg catctttttt   4380
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Input Set : A:\SeqList for UCSF-129CIP.txt
Output Set: N:\CRF3\04052001\I817360.raw

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109 tttctggagg tctgggctag agccagggca gattgggttt ggagagctgg aagtcttcta    4740
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115 ggcactgagg tggctgtgtc gtgaactcct tgaactgagc agccaggagc aaagaaggtg    5100
116 gagcgtctgg ctggaatatc cagcaacgcc ccctccctca tcacctggca gccttgattg    5160
117 aaaacttatt aagaaactgt tcaaggtttc cagccacacc atgtctctta ctggcaaggt    5220
118 ggaataggac tggtgcagca tgagcactga aatctgtccc aggagtgcca gtagagcacc    5280
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130 Thr Ser Ala Pro Pro Ser Pro Thr Arg Thr Arg Gly Asn Cys Ala Glu
131             35                  40                  45
132 Ala Glu Glu Gly Gly Cys Arg Gly Ala Pro Arg Lys Leu Arg Ala Arg
133         50                  55                  60
134 Arg Gly Gly Arg Ser Arg Pro Lys Ser Glu Leu Ala Leu Ser Lys Gln
135 65                  70                  75                  80
136 Arg Arg Ser Arg Arg Lys Lys Ala Asn Asp Arg Glu Arg Asn Arg Met
137                     85                  90                  95
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139             100                 105                 110
140 Phe Pro Asp Asp Ala Lys Leu Thr Lys Ile Glu Thr Leu Arg Phe Ala
141         115                 120                 125
142 His Asn Tyr Ile Trp Ala Leu Thr Gln Thr Leu Arg Ile Ala Asp His
143     130                 135                 140
144 Ser Leu Tyr Ala Leu Glu Pro Pro Ala Pro His Cys Gly Glu Leu Gly
145 145                 150                 155                 160
146 Ser Pro Gly Gly Ser Pro Gly Asp Trp Gly Ser Leu Tyr Ser Pro Val
147                 165                 170                 175
148 Ser Gln Ala Gly Ser Leu Ser Pro Ala Ala Ser Leu Glu Glu Arg Pro
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150 Gly Leu Leu Gly Ala Thr Ser Ser Ala Cys Leu Ser Pro Gly Ser Leu
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157 <212> TYPE: DNA
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196 <212> TYPE: PRT
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202 Thr Gln Gln Pro Phe Pro Gly Ala Ser Asp His Glu Val Leu Ser Ser
203             20                  25                  30
204 Asn Ser Thr Pro Pro Ser Pro Thr Leu Ile Pro Arg Asp Cys Ser Glu
205             35                  40                  45
206 Ala Glu Val Gly Asp Cys Arg Gly Thr Ser Arg Lys Leu Arg Ala Arg
207     50                  55                  60
208 Arg Gly Gly Arg Asn Arg Pro Lys Ser Glu Leu Ala Leu Ser Lys Gln
209 65                  70                  75                  80
210 Arg Arg Ser Arg Arg Lys Lys Ala Asn Asp Arg Glu Arg Asn Arg Met
211                 85                  90                  95
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Input Set : A:\SeqList for UCSF-129CIP.txt
Output Set: N:\CRF3\04052001\I817360.raw

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214 Phe Pro Asp Asp Ala Lys Leu Thr Lys Ile Glu Thr Leu Arg Phe Ala
215         115                 120             125
216 His Asn Tyr Ile Trp Ala Leu Thr Gln Thr Leu Arg Ile Ala Asp His
217     130                 135             140
218 Ser Phe Tyr Gly Pro Glu Pro Pro Val Pro Cys Gly Glu Leu Gly Ser
219 145                 150             155                 160
220 Pro Gly Gly Gly Ser Asn Gly Asp Trp Gly Ser Ile Tyr Ser Pro Val
221                 165                 170             175
222 Ser Gln Ala Gly Asn Leu Ser Pro Thr Ala Ser Leu Glu Glu Phe Pro
223         180                 185             190
224 Gly Leu Gln Val Pro Ser Ser Pro Ser Tyr Leu Leu Pro Gly Ala Leu
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230 <211> LENGTH: 23
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232 <213> ORGANISM: Artificial Sequence
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257 <223> OTHER INFORMATION: oligonucleotide primer
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L:15 M:270 C: Current Application Number differs, Replaced Current Application No
L:15 M:271 C: Current Filing Date differs, Replaced Current Filing Date